

CHAPTER 2

Theories of Rise and Fall, Part 1: Robert Gilpin and Douglass North

Great Powers are the most important states. Any understanding of change in the international political system must be based on an understanding of the change in relative position among the Great Powers. If Great Powers to a considerable extent determine the functioning of the international system, then any change in the make-up of those Great Powers may lead to long-term and far-reaching change in the workings of the international system. Therefore it is important to understand how and why Great Powers rise and decline.

However, most theories of international relations are silent about the causes of rise and decline. This lacuna can create difficulties when the rankings of Great Powers change. For instance, when the Cold War ended, neorealist theory itself was questioned. Because neorealists had not expounded a theory of change, and had instead concentrated on stability and equilibrium as dominant tendencies, international relations scholars became skeptical when change occurred, as it always does.

As Morgenthau shows, however, realists have generally been very aware of the traumatic consequences that have followed from rise and decline. What theories are available to explain rise and decline of Great Powers, and can those theories be used to more adequately understand the long-term processes of international political change?

Many theories have been put forward to explain rise and decline. The most important post-war theories have centered around neo-classical economic theory, partly because any explanation of change in power must come to terms with change in

economic performance, and partly because many scholars have considered the academic discipline of economics to be “scientific”. This seems to be the attitude of Robert Gilpin, who prefers to quote neoclassical economists, even on political subjects. Douglass North has had a great influence on political scientists, even though he is an economist. Finally, neoclassical growth theorists, and most importantly Robert Solow, are considered to be our greatest experts on the causes of economic growth. These three theorists will therefore be the focus of this review of theories of rise and decline.

Just as international relations theorists generally identify two sources of national power, one technological and the other political, so the neoclassical theorists rely on a combination of social and technological causes to explain rise and decline.

All historians, economists, and political scientists with an interest in these issues agree that technological change is an important part of the explanation of rise and decline. Most authors either have great difficulty explaining progress in technology, or simply assume that technological change is exogenous to their model (that is, that it is a force operating from outside that is not explainable from within the model, i.e., endogenously). Neoclassical growth theory, for instance, treats technology as exogenous.

In the neoclassical approaches, the concept of diminishing returns takes the place of technological change as an explanatory variable for rise and decline. Diminishing returns in production means that, given more than one input to production, if only one input is increasing and the others are staying the same, the total output will increase at a decreasing rate. David Ricardo originally developed the idea; he claimed that if one input of production, land, was fixed, then if one kept adding a variable factor of production, labor, eventually each additional unit of labor added would yield less and less

increase in output. According to John Stuart Mill, in agriculture “every increase of produce is obtained by a more than proportional increase in the application of labour to the land. This general law of agricultural industry is the most important proposition in political economy” (Mill 1948, 177).

However, if one continues to add both more labor *and* more land, diminishing returns will not necessarily result. Sometimes authors misunderstand this point, and refer to diminishing returns of one factor of production in isolation. The economic meaning of diminishing returns applies to more than one factor, with all but one held constant.

One might be able to explain decline with this approach, since output per unit of input is decreasing. But it still leaves the problem of rise without an answer, since one can't explain an increase by reference to a process in which decrease is dominant. Gilpin and neoclassical growth theory both use the concept of diminishing returns, and both have difficulties explaining rise, or growth.

The social variable in neoclassical theories is generally discussed under the general category of “property rights”¹. Property rights indicate who has the legal right to certain actions with certain kinds of property. An individual (or set of individuals) has the right to undertake a certain set of actions vis-à-vis a set of objects, which may be physical or intellectual. Neoclassical authors generally feel that the ideal society is one in which every individual (or possibly corporation) has total control over a set of objects; in other words, property is completely privatized.

When all objects are under some person's or corporation's absolute control, then a second social variable can be used to explain rise and decline: exchange and trade. If everyone has control over their own objects, then those objects can be traded. As Gilpin

puts it when explaining the neoclassical world view, “it is more blessed to consume than to produce” (Gilpin 1981,129). Exchange and property rights, which lead to consumption, are more important variables in the neoclassical explanations than is technological change, which has greater effects on production.

Robert Gilpin

The most comprehensive modern treatment of the question of rise and decline has been articulated by Robert Gilpin in *War and Change in the Global System*. Although almost every possible cause of change is dealt with in the book, his argument is based most fundamentally on the ideas of property rights and diminishing returns.

Basing his argument on the work of Douglass C. North, Gilpin argues that some countries rise because their property rights are more efficient than others . For Gilpin, “Property rights and the rules embodying them are the basic means for ordering domestic social, economic, and political affairs. The definition and distribution of such property rights reflect the powers and interests of the dominant members of society.” (Gilpin 1981, 37). We might therefore diagram his chain of causation thus: dominant members’ power → property rights → social order. The power of the dominant members is a given. Gilpin never explains why different societies are characterized by different internal distributions of power, or why certain kinds of dominant members might behave differently.

The last step in the chain, social order, is important because “the most critical factor in the growth of power of a society is the effect of the political and economic order on the behavior of individuals and groups” (Gilpin 1981,103); it is group and individual

behavior which is the ultimate cause of rise and decline (Gilpin 1981, 103). Property rights lead to this social organization (Gilpin 1981, 104), which leads to behavior. So the full expression of Gilpin's domestic causal sequence now becomes: dominant members' power → property rights → social order → behavior → national power. This sequence will be referred to as Gilpin's causal sequence of power.

The state is also defined in terms of property rights (Gilpin 1981, 17). Each state, as a result of its own causal sequence of power, is characterized by a certain level of power relative to other states in the international system. The Great Powers "establish and enforce the basic rules and rights that influence their own behavior and that of the lesser states in the system" (Gilpin 1981, 30), because they are at the peak of this international hierarchy of power. According to Gilpin's causal sequence of power, then, Great Powers are those dominant members that set the property rights and social order of the system; they are therefore at the base of the entire sequence². Gilpin's international causal sequence may be diagrammed as the following: Great Powers → property rights → social order → behavior → degree of stability (Gilpin 1981, 42-43).

How does a state rise? Gilpin's main answer seems to be that it is the constitution which is constructed at the establishment of a state that leads to a trajectory of rise and, eventually, decline. His most important example, as expounded by Polybius, focuses on the rise of Rome. Rome was a republic and had a citizen (nonmercenary) army, which gave it a great advantage against its neighbors; Gilpin notes that Machiavelli, as well as Montesquieu, also praised this arrangement. But the constitution of a state is not the same thing as its property rights. The constitution determines political structure, which then has important consequences for property rights.

Gilpin is therefore advancing two lines of argument on the causes of the rise of a state (in his section on “Domestic Sources of Change” [Gilpin 1981,96-105]). We might diagram his “constitution”-based argument as follows: constitution → social ordering → behavior → social power. Thus, the constitution has supplanted the previous position of property rights in his causal sequence of rise. Since “dominant members’ power” is also at the base of his “property rights” version of the causal sequence, and the constitution specifies control of the state, both sequences give central importance to the distribution of power within the state.

Gilpin fully acknowledges the importance of the distribution of power in the international sphere: “The distribution of capabilities and the ways in which this distribution of capabilities changes over time are perhaps the most significant factors underlying the process of international political change” (Gilpin 1981,86). In addition, while his definition of governance in the international system seems to center around rules and rights, “The distribution of power...determines who governs the international system and whose interests are principally promoted by the functioning of the system” (Gilpin 1981,29). In the international system, at least according to Gilpin’s logic, distribution of power is a more important cause of change than property rights.

For Gilpin, the only point at which change takes place in the domestic sphere is at the beginning of the causal sequences, that is, either in the constitution or the composition of the dominant members. Thus, there is no theory of domestic change *after* the establishment of the state. He quotes Montesquieu: “At the birth of societies, the leaders of republics create the institutions; thereafter, it is the institutions that form the leaders of

the republics” (Gilpin 1981,101). In other words, once a society has been institutionally set in place, it will move in a certain trajectory until a cataclysm leads to a rebirth.

This analysis is actually quite similar to that of Arnold Toynbee, as elaborated in his “Study of History” (Toynbee 1947, particularly 230-43). For Toynbee, the great works of advancement and progress are undertaken by the “creative minorities” of a civilization, who inspire the “proletariat” (that is, the nondominant majority) to take the society in a different direction. The “creative minority”, ensconced in a society which is becoming more powerful and wealthier through time, eventually becomes a “dominant minority”, that is, basically parasitic. The civilization then declines, because the proletariat is no longer willing to follow the leaders, but only obeys them out of fear. Eventually, a piece of the proletariat may break away, forming a new society and a new creative minority. Thus in Toynbee’s conception, as for Karl Marx, a struggle for power among classes may lead to a rebirth of a civilization.

For Gilpin, “tradition and vested interests inhibit further reordering and reform of the society”(Gilpin 1981, 103). Gilpin doesn’t even acknowledge the possibility that there may be revolutionary forces which break away from the old society, as does Toynbee. Gilpin enumerates various reasons that the progressive leadership becomes regressive. The republican virtues may turn into tyrannical vices, the militaristic élan might transform into pleasure-seeking sloth, or the hardy entrepreneur might become the frivolous rentier (Gilpin 1981, 153-154). This cycle might be termed as a “rise-leads-to-fall” process.

Many scholars have postulated a “rise-leads-to-fall” sequence. There are two groups of theories. The first may be called the “commercial-zenith” theory. Historians

such as Charles Kindleberger (1996), Janet Abu-Lughod (1989), and Carroll Quigley (1961) have written richly descriptive historical essays on the rise and decline of various civilizations and states. While no theoretical framework is proposed in these works, the general theme is that competence in production leads the society to become rich, at which point, when the civilization is at its zenith, the resources of the society move into commercial, financial, and luxury ventures. Quigley explicitly notes that the surplus of the society moves into less productive outlets (Quigley 1961, 139), while Kindleberger and Abu-Lugod tend simply to describe the decline from commercial zenith to weaker power.

The second group of scholars can be described as “long-cycle” theorists. These writers believe that history, at least since 1500, can be characterized as being dominated by a “hegemon” during its cycle of rise and decline, which lasts for approximately 100 years. This literature is filled with statistical analyses, even though economic data before the Industrial Revolution, or even the 20th century, is notoriously unreliable. The works of these scholars are also usually focused on the problem of describing the alleged long cycles, instead of analyzing why the hegemon rose or fell. Joshua Goldstein (1988) makes probably the best attempt to construct a theory of rise and decline: “The heart of the theory...is the two-way causality between war and production – a dialectical movement in which economic growth generates war and is disrupted by it” (Goldstein 1988, 260). Gilpin’s analysis is much more sophisticated, and takes Goldstein’s argument into account. Goldstein does not explain how growth takes place.

Modelski and Thompson (1996) also propose a major theory of long cycles, but they rely on W.W. Rostow’s theory that a leading sector somehow pulls the rest of the

economy into a “takeoff” into growth. While this theory was widely discussed in the 1960s, it is no longer taken seriously by economic historians, because of the difficulty of empirically identifying the takeoff and the leading sector.

The biggest problem with the long cycle theories, however, is that there is no long cycle. When Kondratieff originally coined the term “long wave” to characterize economic history, he was referring to price levels. Rise and decline is a process of variation in output, not prices. Perhaps the fallacy of the argument can be best summed up in a graph presented by Fernand Braudel (1992 [1979], 81). Braudel shows the Kondratieff price cycles from 1710 to 1950, superimposed on a production curve in the same time period. The production curve, with minor variations, is rising the entire period. Braudel simply writes, “note its discordance with the price curve”.

Gilpin’s version of “rise-leads-to-fall” cycle is to argue that, as the society grows wealthier, consumption and military needs take larger and larger pieces of the economic pie of the state. “As a consequence, the efficiency and productivity of the productive sector of the economy on which all else rests will decline”(Gilpin 1981,158). In terms of Organski’s discussion of economic power, one might say that the capital which leads to more capital is allowed to deteriorate, or the society is “eating its own seed corn”, as the common expression puts it.

According to Gilpin’s (and Toynbee’s) scenario, then, the rise of a Great Power would consist of the following sequence: at the beginning, a society is organized or reorganized, at which point a leader or group of leaders “orders” the society in accordance with a certain set of property rights and a different political structure, as embodied in a constitution; after the beginning, this social “trajectory” has been set, and

the trajectory will not change because of a certain calcification process (Mancur Olson, in *The Rise and Decline of Nations* (1982), calls this a “sclerotic” situation). Finally, the fortunes of the society will depend on how well it is ordered vis-à-vis the trajectories of all of the other societies within the international system³.

This “trajectory” is not a straight, upward-sloping line, leading to greater power. Instead, according to Gilpin, diminishing returns eventually set in, resulting in a falling trajectory:

Every society in every age is governed by the law of diminishing returns. The society can grow and evolve in wealth and power within the existing social and political framework only to the point at which it begins to encounter diminishing returns... these fetters must be removed through political-institutional change and especially, although not necessarily, through territorial or economic expansion. (Gilpin 1981, 80)

Since the most important part of the “social and political framework” for Gilpin is the set of property rights that the state has established, then according to his logic, the fetters to be removed are those of inadequate property rights. Altering property rights becomes difficult, because the power of the dominant groups enables them to specify property rights, and such power does not change easily. In fact, there is no mechanism in his theory for an internal reordering of power to occur.

At the heart of Gilpin’s explanation of rise and decline, then, is a combination of a change in property rights and the process of diminishing returns. A particular set of property rights starts a society along a particular trajectory; the society eventually experiences diminishing returns because one set of “inputs” to the production of power, property rights, remains fixed, while the other main “inputs”, the labor, land, and capital of the society, increases.

For descriptive purposes, we could use the following diagram:

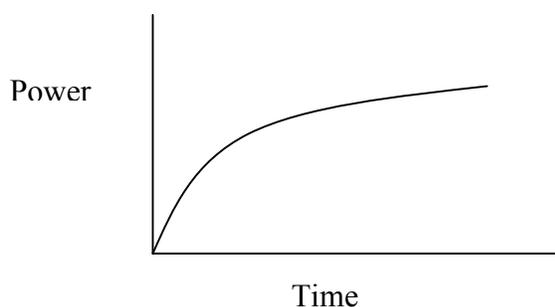


Figure 6. Diminishing returns to investment in power.

Here we see a case of diminishing returns. While at first power is increasing at an increasing rate, at a certain point in time the increase becomes smaller the longer we look at the “curve of power”; the returns to investment are decreasing (see Gilpin 1981, 78-80).

For Gilpin, rise occurs as a result of the establishment of a set of property rights, and decline takes place because of the phenomenon of diminishing returns. The three main problems with this approach are contained within his own work: the distribution of power, the phenomenon of increasing returns, and the role of technological change.

First, the distribution of power within a state is treated as a given, as a phenomenon which does not need to be explained. Yet the groups that hold power, and the ways in which that power is distributed among all members of society, has a controlling effect on the specification of the property rights which Gilpin holds to be of central importance.

The second factor that Gilpin treats as secondary is the phenomenon of the increasing returns, or positive feedback, of power. Power often leads to more power: “The growth of power of a state and its expansion tend to reinforce one another, as expansion increases the economic surplus and resources available to the expanding state”(Gilpin 1981, 146). This is a process of positive feedback, or increasing returns; the

greater presence of an element that occurs in a system, the greater will be the possibility that even more of such an element will become present. Any positive feedback situation may run out of control, as, for example, during an explosion. Indeed, if one surveys the historical record, there have been many “explosions” of one state, or set of states, that have swept away all opponents. One can think of Napoleon, the Mongols, or the European conquest of much of the world as examples of positive feedback. Of course, all explosions die out because of limiting factors; if political explosions didn’t stop, “the logic of this situation would culminate in a universal political empire” (Gilpin 1981, 146).

However, Gilpin does not put the phenomenon of positive feedback at the center of his analysis. If he did, the “trajectory” that is established at the beginning of a state might have a nonlinear, upward slope. Instead, when *diminishing* returns are the central theoretical feature, the state can only go *downhill* from its beginning position.

Because of this lack of interest in the forces of positive feedback, when Gilpin seeks to explain the limits to expansion, he gives short shrift to the concept of the balance of power and instead accentuates the internal problems of expansion. Balance of power is a concept which involves the coaction of several actors. As a state becomes more and more threatening, more and more states cooperate to block the increase of power of the aggressive state. Power is balanced in the international system in order to stop the process of positive feedback which results from continual, successful conquest.

Instead, Gilpin concentrates on factors which are similar to diminishing returns. First, he discusses the case of “loss-of-gradient”, that is, the diminishing returns of trying to control a greater and greater space (Gilpin 1981, 146, but mainly 56-59). Second, he is

concerned with what might be called diminishing returns to control (Gilpin 1981, 147-152). At some point, “increasing scale tends to stimulate centrifugal forces and fragmentation on the part of groups that believe they can maximize their own gains by breaking off” (Gilpin 1981, 152). The onset of diminishing returns tends to be an internal process; by ignoring positive feedback, he ignores the constraining effect of other states.

The third factor that is underemphasized by Gilpin is the role of technology. It has always seemed to economists that technological change is inherently outside of their field. Technology is therefore treated as a given, as is the distribution of power. But the argument of the primacy of diminishing returns in production is actually a technical argument that the single most important characteristic of production is the characteristic that output will decrease if one factor of production is fixed while another is increasing. Most of Gilpin’s historical examples took place before the Industrial Revolution, but diminishing returns is not a fruitful starting point from which to understand the technological change of the last two centuries.

There has been an exponential increase in production in the last two centuries, which has totally outpaced population growth, at least in the industrialized countries. If diminishing returns are primary, why has growth of output been spectacular? If anything, we should be looking for a basic aspect of production which leads to a positive feedback, an increasing returns process, not a diminishing returns process.

Gilpin acknowledges some of these points. He states, “In the modern era...the law of diminishing returns has lost much of its power...It was, of course, this revolutionary development of technological advances that gave us the phenomenon of sustained economic growth and in turn created the modern era of affluent industrial

societies” (Gilpin 1981, 71). But neither will he let go of the centrality of diminishing returns: “In the absence of new spurts of innovation or a borrowing of technology from abroad, the growth of the wealth and power of a society begins to slow...thus the modern industrial economy ultimately may not be any better at escaping the law of diminishing returns than its preindustrial predecessors” (Gilpin 1981, 159-160). The infatuation with the idea of diminishing returns leads neoclassical authors to assume that diminishing returns are more basic than increasing returns in the economy (see also statements in Gilpin 1981, 54, 79-82, 123, 159).

In fact, Gilpin offers another theory concerning rise and fall, which contradicts the precedence he gives to diminishing returns and property rights: “The diffusion of military and economic technology from more advanced societies to less advanced societies is a key element in the international redistribution of power” (Gilpin 1981, 177). However, “whether diffusion takes place depends on the recipient society’s capacity and willingness to learn”, but “for reasons beyond our present understanding, societies differ greatly in terms of capacity to learn from others” (Gilpin 1981, 178)⁴. Does technological learning have anything to do with property rights? What is the relative causal importance of the two processes?

The diffusion argument is actually a combination of the two causal processes of changing distribution of power and technological change: diffusion of technology among nations implies the redistribution of *technological* power.

Gilpin thus rests the core of his explanation of rise and decline on two rather thin reeds, property rights and diminishing returns, while relegating technological change and distribution of power to secondary status. Like many other neoclassical authors,

including Douglass North and Robert Solow, the Nobel-laureate theorist of economic growth, Gilpin argues that property rights in the form of patent rights can explain technological change. He argues that because of diminishing returns, a demand for technological innovations arises; “The most important mechanism for stimulating this incentive is the creation and enforcement of new types of property rights...thus the innovation of the patent system extended the notion of property rights to intellectual creations in order to encourage industrial invention” (Gilpin 1981, 81). But creating a structure of incentives, no matter how optimal, will not bring forth the technology if the skills and resources are not available to create the technology. A patent system in ancient Rome would not have brought forth the computer, no matter how well property rights were protected.

No scholar has attempted to explain the difference among industrialized countries in terms of differences in patent laws, or even in property rights in general. The collapse of the Soviet Union is not a good case for property rights causation because the *rise* of the Soviet Union was characterized by even *worse* property rights, under Stalin, than were in existence at the fall, under Gorbachev.

The consensus among historians of technology is that there is no consensus about the usefulness of patents in encouraging innovation (Mokyr 1990, 247-252). Patents hold an ambiguous position in economic theory because they confer monopoly rights on the owner. Monopoly is usually supposed to lead to decreased welfare because monopoly prevents competition.

Gilpin, unlike most neoclassical economists, acknowledges the importance of the *relative* position of states. Ironically, he does not extend this awareness of the interplay

of states to the core of his theory of rise and decline. In his sequence of rise and decline, he begins with a dominant power, enforcing rules and rights. Then, its power starts to erode because of the effect of diminishing returns and the processes of rise-leading-to-fall. As its power declines, the opportunities for other societies to step into the vacuum left by the hegemon expands. But haven't there also been positive steps that the challengers have been taking? The only hint we get of this is either 1) that the challengers are rearranging their property rights, for whatever reason, to be more efficient, or 2) that they have become more technologically adept, again for reasons that are not clearly spelled out.

In Gilpin's system, the explanation of decline is dominant. Indeed, in much of the literature on rise and decline, there is more decline than rise. For example, a major collaboration of historians was entitled "The Decline of Great Powers" (Lundestad 1994).

Gilpin addresses internal causes of decline, such as rise-leads-to-fall and diminishing returns, but does not focus on external causes, such as balance of power and the rise of other societies. He notes the reasons for the establishment of internal property rights and constitutions that lead to rise, but he does not have an explanation for variations in growth thereafter. Change is still outside of his model; technology and redistribution of power within a state seem to be the ultimate forces of change, but the behavior of these processes remains unexplained.

Douglass North

Gilpin leans heavily on property rights as the key to rise and decline. In doing so, he is following the lead of Douglass North, who has written several well-known works on property rights and their relation to economic performance. North (1990) attempts to explain “divergence” of economic performance among the nations of the world (see also North 1990, 6-7). This is not exactly the same as explaining relative rise and fall. Like Gilpin and Toynbee, there is a tendency to inquire as to the “trajectory” that a society takes once it has been ordered in a particular way. For North, there is a “lock-in” (North 1990, 7) that societies suffer or prosper by, which can last for decades, or even hundreds of years.

There are two parts to the problem of relative rise and decline. On the one hand, one can inquire as to the reasons for the relative difference in power among a set of countries during one time period. In other words, the ranking among countries is static; there is no need to explain a change in the rankings. This is the question that North mainly addresses.

On the other hand, one can inquire as to the reasons for an absolute rise and decline of a country. Toynbee was particularly focused on such an inquiry, as is Gilpin.

Combining the two together, however, does not answer the question of the causes of the relative rise and decline of Great Powers. That is, we can understand why Britain is currently less powerful than the U.S.; or we can understand why Britain declined over the last two centuries. But these explanations do not tell us why Britain, which was far ahead of the U.S. two centuries ago, is now far behind, although we would have some

important insights into the process. One should be able to explain, not just why there is a static ranking among Powers, but why there is a change of rank.

In neoclassical economics, there are two separate and contradictory conclusions concerning relative ranking, which may be grouped under the headings of convergence and comparative advantage. On the one hand, in the process of “convergence”, there should be a period during which the various countries converge to the same level of economic performance⁵. In a perfect market, information and knowledge should diffuse effortlessly among all regions of the world. In addition, according to North, “over time inefficient institutions are weeded out, efficient ones survive, and thus there is a gradual evolution of more efficient forms of economic, political, and social organization” (North 1990, 92), which should spread all across the world.

For North, the differences in property rights among nations explain the differences in economic performance. The diffusion of knowledge is not costless, but is characterized by what North calls transaction costs. Property rights decrease or increase transaction costs, and thus make it easier to learn the latest techniques and to capture gains from trade.

For North, then, there may be a “lock-in” of a society, so that it cannot move up or down. In neoclassical thinking, all economies should automatically move toward the best techniques. Once they are at this optimum point, however, there should be no movement in relative rankings, since all Powers would be at the same ranking. This state of affairs, in which all economies are at the same level, is contradicted by another theory of economics, comparative advantage.

David Ricardo (1970, chapter 7) first put forward the theory of comparative advantage in order to show that free trade would maximize welfare among countries. The crucial assumption in his argument, which makes the theory unusable for a theory of relative rise and fall, is that the relative productivities among nations stay the same. If they do, then wealth is maximized when each country concentrates exclusively on what it does best – even if another country is more productive at what the first country does best. Ricardo concluded, in the early nineteenth century, that “it is this principle which determines that wine shall be made in France and Portugal, that corn shall grow in America and Poland, and that hardware and other goods shall be manufactured in England” (Ricardo 1970, 134).

Unfortunately for Ricardo’s theory, Americans since the early 1800s have been much better known for manufactured goods. Even in Ricardo’s time, his primary example should have led to skepticism. England was advanced in textile manufacture, and Portugal had sunk to concentrating on Port wine, because the competencies of the two countries had reversed in the three centuries before Ricardo, whose family was originally from Portugal, had written. By the late 1400s, Portuguese ships were traversing the globe, while the English were specializing in the sale of raw wool. If the two countries had precociously taken Ricardo’s advice, Portugal would have been richer than England in the early nineteenth century, and Ricardo would probably have been justifying the situation with reference to comparative advantage – in Portuguese.

Gilpin and North never use the idea of comparative advantage. Gilpin is concentrating on change, while comparative advantage is a theory about stasis. North is

concerned about the static ranking of nations, but he has put forward a theory which has more explanatory power than the theory of comparative advantage.

Over his career, North has stressed different variables to account for divergence. In his book *Structure and Change in Economic History*, North (1981) focused on property rights, as does Gilpin. In his book *Institutions, Institutional Change, and Economic Performance*, however, he shifts his focus to what he calls “institutions”, which are “the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction” (North 1990, 1), because the “institutional framework is the critical key to the relative success of economies, both cross-sectionally as well as through time” (North 1990, 69).

Therefore, if the rules change, the economic performance of a country should change; different rules in different countries should explain different economic performance, at least over the short-term. There are several problems with this approach.

First, constraints can never provide the entire explanation for performance; there must be a set of agents acting to generate a particular level of performance. Constraints can only *guide* behavior; they never *produce* behavior. Only agents, or actors, can produce something. North sometimes writes as though constraints produce effects (for example, North 1990, 92, 95); but in fact actors produce, constraints guide.

Second, rules do not, by themselves, lead to change. That is why they are rules – they stay constant. North (1990, 84) therefore introduces different variables to account for change. The sequence of causation is the following: Changes in technology, factor price ratios, or information costs → changes in relative prices → change in bargaining power of entrepreneurs → change in institutions (in other words, rules) → change in

behavior of entrepreneurs → change in economic performance (note that this sequence is similar to Gilpin's, although North tries to explain bargaining power). Changes in relative prices lead to greater bargaining power for some and less bargaining power for others, and eventually "changes in bargaining power lead to efforts to restructure contracts, political as well as economic" (North 1990, 69).

Neoclassical economists such as North have great difficulty in integrating the idea of power into their theories because they have based their academic discipline on the idea of exchange. Exchange is normally defined in terms of a set of voluntary actions, in which at best both parties to the exchange profit from the action, and at worst neither profits. Another word for exchange, usually associated with exchange among nations, is the term *trade*; so as North puts it, "For 200 years the gains from trade made possible by increasing specialization and division of labor have been the cornerstone of economic theory" (North 1990, 27). North 1990, These he often refers to, respectively, as "information costs" or "measurement costs", and "enforcement costs". These costs "are the sources of social, political, and economic institutions" (North 1990, 27). Thus, theoretically, exchange, and the costs associated with exchange, logically lead to the construction and importance of institutions.

However, exchange is supposed to be beneficial for both parties. But when power is exercised, often (although not always) one party gains and the other party loses. In fact, in North's causal chain, a change in bargaining power leads to changes in institutions ("it is the bargaining strength of the individuals and organizations that counts" [North 1990, 68]); somebody lost and somebody gained. He seems to be using the term "bargaining power" as a way to square the circle, to have power involved with

exchange, but neoclassical economists in general assume the problem away by simply assuming a “given” distribution of bargaining power (as does Gilpin in the domain of domestic power). For instance, North claims that “given the initial bargaining strength of the decision-making parties, the function of rules is to facilitate exchange, political or economic” (North 1990, 47).

There is always the possibility that power won’t be used to “bargain”; it will be used to simply force behavior. Much of North’s work has shown the critical role played by the state in enforcing contracts and rules, without which modern economies are not possible (North 1990, 58-59). States can use their power to make institutions as they wish, whether or not such institutions make economic sense, and the distribution of power over the state organizations will therefore have a critical effect on institutions. Like Gilpin, North confuses rules and property rights with distribution of power. Power cannot be reduced to exchange; any theory of institutional change must include distribution of power as one of the variables.

If the distribution of bargaining power determines, to a large extent, the form of institutions, then it follows that the causes of the distribution of bargaining power are at least as important as the rules. North emphasizes that changes in relative prices lead to a change in bargaining power; however, those relative prices are determined by other forces.

In North’s sequence of causation, probably the most important source of change of relative prices is technological change. North divides economic activity into transaction (or exchange) and transformation (or production) (North 1990, 118; Wallis and North 1986). North implies that as institutions are to exchange, technology is to

production – that is, institutions and technology explain change in exchange and production, respectively.

Furthermore, according to North, technology determines institutions and institutions determine technology (North 1990, 61). The use of technology in institutions is clear. As Gilpin and others have commented, for instance, advances in communication and transportation technology obviously decrease transaction costs, and computers make information costs lower. The reverse is not so easily demonstrated. The examples North uses, such as the fact that “the firm’s entrepreneur must be able to ascertain the quantity and quality of a firm’s inputs and outputs”, fall short because the control of quality of output is a part of production, not exchange; transaction costs, as a category, cover exchange. Insuring quality of inputs, insofar as it refers to ensuring that the supplier lived up to its contract, is certainly a part of transaction cost. But the effect of technology on transaction costs is certainly more important than the effect of transaction costs on technology.

North, like Gilpin, attempts to show the importance of property rights to technology by invoking the power of patent law (North 1990, 75, 78), even though “the long-run growth of skills and knowledge... are the underlying determinants of economic growth”(North 1990, 79). If skills are so important, one would think that the role of skills should be on the same level of explanatory power as institutions.

Perhaps in anticipation of arguments in favor of the primacy of technology, North argues that “the traditional historian’s focus on the Industrial Revolution and technological change as the key to utopia is likewise deficient because much of the world has failed to realize the potential benefits of technology”(North 1990, 132-3).

Historians are generally careful not to give technology a monocausal role in world history, and it is actually economists who expect “convergence”, not the historians. In order for technical knowledge to flow across or even within borders, the requisite skills must exist within the population, and the resources must be available, to be able to transfer technology from one place to another.

Like Gilpin, North attempts to use a social variable, rules and institutions, as the major variable explaining differences in economic performance. Even the logic of his argument, however, leads back to the importance of technological change and distribution of power. The empirical data that he supplies in another book, *Structure and Change in History* (1981), also points to the greater explanatory power of power and technology, as opposed to his chosen variable in the book, property rights (North 1981, 59).

Using only the material presented in his book, it can be shown that property rights are not the most important social variable. Instead, following the logic of his examples, it would seem that the distribution and existence of political power in a society is more important than property rights. Distribution of political power refers to the nature of the control of the apparatus of the state by segments of the population, including those that make up the state. The existence of the state refers to whether or not a particular piece of territory has the majority of its violence controlled by the state, as opposed to a state of anarchy.

North places the state in a central position in various societies in the ancient world (North 1981, 91, 94, 96). In the case of the Athenians he states that “the state specifies the property rights according to the interest of the dominant group in power” (North

1981, 106), which would indicate that the distribution of political power causally antedates the property rights; “As in the case of the Greek polis, the [Roman] military necessity of having a self-equipped hoplite army wrung concessions from the aristocracy” (North 1981, 107), so that in the Greco-Roman world, the distribution of political power was powerfully influenced by military considerations. Thus, we see a pattern that seems to occur often in North’s narrative, as well as in history in general; political power is dispersed among a large, or larger, section of the population than previously because the state needs the resources, either economic or political, of a larger portion of the population. This is not a problem of property rights or rules; it is a process of the controllers of the state exchanging some of that control for the resources of the population.

North seems to concede this point when he writes that “the struggle over [distribution of wealth and income], both within and between states, is the most fundamental source of [economic] change and decline” (North 1981, 113). Again, the political organization produces, or causes, the property rights.

Often in North’s writings, he stresses the importance of the security, or lack of security, of property rights. If an economic actor is afraid that his or her resources will be arbitrarily expropriated, then the actor will be much less willing to engage in economic activity in the first place, and the society will become poorer. But the security of property rights is not caused by property rights; it is the consequence of the existence of the state, as he shows in the case of Rome (North 1981, 110).

Another theme of North’s is that overtaxation leads to decline. He seems to want to categorize taxation as an exercise in changing property rights, although he is never

explicit; one could say that a tax is the state's claim on the property of its population. However, this would be stretching the meaning of the concept of property rights, which should be referring to the possessor's use and exchange of the property. According to Tilly and Ardant, taxes are, along with monopolization of violence, the most important element of the state (Tilly 1975). Taxes are the way the state mobilizes resources from within the society. As an explanation of Rome's fall, North says that "taxes and confiscations alter the structure of property rights so that there is a reduced incentive to undertake productive activity" (North 1981, 115), and "the end result...was increasingly unequal land distribution...perhaps decisive was the alteration from the polis to a bureaucratic empire" (North 1981, 108). Confiscation, taxation, land distribution and bureaucracy are all aspects of the existence of the state and the way its power is distributed (North 1981, 119-123).

In explaining the rise and fall of feudalism, North tries to use neoclassical reasoning but instead relies on political factors. The original feudalization was not the result of any "contractual" agreement between lords and serfs: "The warrior class was analogous to the Mafia in extracting income from the peasantry" (North 1981, 130), and "no voluntary agreement was involved" (North 1981, 131) between the peasants and lords. The ultimate decline of feudalism was ensured by the needs for larger and larger political units and the rise of technology (North 1981, 138).

A scarcity of labor during feudal times led to an increase in political power for the population, and technology led to "arms races" that doomed the manorial system. Since "the critical factor was the ability to increase tax revenues" (North 1981, 138-139), and "[the ruler] could grant privileges – property rights and the protection of property rights –

in return for revenue”(North 1981, 140), the economic wealth mobilized by the state was critical. But it was not simply privileges that were being granted, but actual control over the state. North claims that the persistence of early Parliaments “is the key to future differential patterns of development” (North 1981, 141) among the powerful states in early modern Europe.

Parliaments are organizations whose explicit reason for existence is to decentralize the distribution of power over the state. They may change property rights, as a result of the decentralization; in particular, and of great concern to North, Parliaments will not be ruinous in their taxation, and will tend to prevent confiscatory practices of the state. But distribution of power causes changes in property rights and security of property, not vice versa.

North engages in what Alexander George calls a “focused, comparative” case study approach (George 1979) to explain why England and the Dutch rose in early modern Europe, and Spain and France declined. Those countries which lost their parliaments – Spain and France – developed overly centralized governments which overtaxed the population. This, in turn, led to a slowdown or reversal in economic output. The Dutch, and particularly England, developed Parliamentary institutions that blocked the development of a “predatory state”. Again, even using North’s evidence, distribution of power affected taxation and property rights.

The explanation for the variation in strength of Parliaments is significant. In the case of Spain and France, the countries had been torn apart by constant battles, either between lords inside the country or in wars against neighbors (England and Burgundy in the case of France, the Moors in the case of Spain). The parliaments were willing to

concede power to the central government as a way of ending the discord, and to ensure powerful military leadership. The English, on the other hand, although also undergoing internal strife, were protected by the English channel. The Dutch, too, were somewhat isolated by the nature of the geography of the Low Countries. Because of this, the level of taxation did not need to be so high, and the military apparatus of the country did not need to permeate the entire population. Therefore, military considerations were important for the political structure of the state, which in turn led to various levels of taxation. Property rights would seem to be a minor cause of variation in existence of parliaments and therefore for economic performance (North 1981, 156).

North seems on strongest ground when arguing the case for property rights in the case of the Dutch. Since Holland was mainly a commercial society, property rights – which should be most directly involved when dealing with exchange – would have greater importance.

In the Spanish case, the Mesta (North 1981, 150-151), which was an organization that controlled much of the countryside because of their monopolization of sheep, is called a “guild” by North, but was really more like a commercial monopoly. North notes that monopolies encouraged stagnation in France and Spain, and that England and the Dutch had less of them. To call a monopoly a “property right”, however, is to again stretch the term too far. The central fact of a monopoly is that control is centralized in one unit within a particular domain, as opposed to an oligopoly, in which many participate, or a competitive system, in which no one unit has any control over price. The distribution of power within the market is a better explanatory variable than the nature of the property right.

Thus, in North's most impressive display of historical comparison, the forces of technology, military considerations, and political structure seem to operate at a higher causal level than property rights or rules.

North feels that the effect of organization and property rights on the size of the market can explain different rates of technological change during the Industrial Revolution (North 1981, 165-6). However, the size of the market is itself generally the consequence of transportation and communication technologies, and the ability of the state to spread its monopoly of violence over a territory.

During the Industrial Revolution, North claims, "the costs to the merchant of ensuring quality control were less by the [factory] form of organization than by [a series of market transactions]" (North 1981, 168). Thus, "the Industrial Revolution came about as a result of organizational changes to improve the monitoring of workers". The chain of causation ran "from central workplace, to supervision, to greater specialization, to better measurement of input contributions, to technical change" (North 1981, 169), because the entrepreneur could see, in the factory, how to replace hands with machines.

However, he presents several ideas which show that the acceleration of technological change was more important than centralizing work in the factory. To explain the start of the Industrial Revolution, he includes factors that require skill ("The development of the scientific disciplines", and "the intellectual interchange between scientists and inventors during the Industrial Revolution") and a factor that requires skill and government intervention ("a good part of the basic research has been financed by government and takes place in universities" [North 1981, 172-173]). He also mentions

“patent laws [and] the growth of complementary law”, although by the middle of the nineteenth century most advanced nations had fairly similar patent laws.

In order to understand the social and technological causes of the industrial revolution, North quotes Alfred Chandler, who states that “the rise of modern mass production required fundamental changes in the technology and organization of the processes of production”. But Chandler’s concept of organization is much different than North: he stresses coordination, and never mentions property rights. According to Chandler, “Such economies [of scale] came more from the ability to integrate and coordinate the flow of materials through the plant than from greater specialization and subdivision of the work within the plant” (North 1981, 175).

When the focus is on production and distribution, as it is with Chandler, workers are seen as part of a system of production and distribution, and the biggest problem is how to coordinate this system in order to produce something. North criticizes Chandler for “missing” the problems of exchange (North 1981, 176), but actually it is North that misses the problems of coordinating systems.

For North, the biggest problem in a factory is not coordination, but the need to prevent “free riding”. One must prevent workers from shirking their responsibilities. Thus for North, the problem of cooperation is a problem of eliminating a negative tendency. In the modern era, however, the problem of cooperation is the problem of how to make many machines and people work together in an efficient way. It is the positive problem of designing systems. This is the view of Chandler, who is trying to explain the rise of American and German corporations to world dominance in the early twentieth century.

A possible reason for North's preoccupation on free riding is that neoclassical economists focus on exchange. In an exchange, the difficulty is to make sure that everyone who is party to the exchange lives up to their word: this is why there are transaction costs, according to North, which arise from the enforcement of contracts and the measurement of transactions. The actual technical needs of production, which always involve coordination, are ignored. In the neoclassical world, the economy is conceived to be composed of atomized, undifferentiated units. Like a gas in a container, no coordination is necessary.

In reality, however, there is a strongly defined differentiation of function within a production unit and among production units. Adam Smith originally referred to this differentiation as a "division of labor". He claimed that this division of labor was effectively organized as if by an "invisible hand". But within the modern corporation, as Chandler has shown, coordination is essential; this is why he entitled his book, from which North quotes, "The Visible Hand" (Chandler 1977).

Thus, for every period of history that North analyzes, we see that technological change and distribution of power are more important variables than North's choice, rules and property rights. In addition, the importance of production and coordination has been highlighted by North, even though he has focused on the problems of exchange. As I will show in the next chapter, neoclassical growth theory also focuses on exchange even while acknowledging the centrality of technological change in the processes of economic growth.

¹ Gilpin's main definition of property rights comes from the work of Harold Demsetz, an economist from the University of Chicago: "An owner of property rights possesses the consent of fellowmen to allow him to act in particularly ways. An owner expects the community to prevent others from interfering with his actions, provided that these actions are not prohibited in the specifications of his rights" (Demsetz 1967, 17). Demsetz also says that "property rights specify how persons may be benefited and harmed, and, therefore, who must pay whom to modify the actions taken by persons" (Demsetz 1967, 347). Alchian, another important economic theoretician, says more simply that "a property right is a socially enforced right to select uses of an economic good" (Alchian 1989, 232). Thus, a patent is the right to restrict use of a certain piece of knowledge to the creator of that knowledge. For John Stuart Mill, "The institution of property...consists in the recognition, in each person, of a right to the exclusive disposal of what he or she have produced by their own exertions, or received either by gift or by fair agreement, without force or fraud, from those who produced it"(Mill 1965, 218), although Mill was speaking specifically about private property. For North, "property rights are the rights individuals appropriate over their own labor and the goods and services they possess" (North 1990, 33).

² Unlike Kenneth Waltz, who uses the concept of anarchy to characterize the international system, Gilpin is closer to Hedley Bull and others in conceiving of the international system as a society (Gilpin 1981, 28); for Gilpin, "governance" is a very important aspect of the international system. Gilpin is never very explicit about his definition of control and governance. The index of the book lists page 29 as containing the definition of governance, but that page only discusses how power is distributed, not what it is. The best guess is that "rules and rights" are what are to be controlled by a governing body.

³ Both Gilpin and Toynbee have an evolutionary perspective. For Toynbee, his focus of interest was why some civilizations were able to respond to the challenge of a changing environment in such a way that the civilization became "stronger". For Gilpin, too, the question is whether a society, once ordered, can adapt to a changing environment: "the nature of domestic arrangements confers on a society a relative advantage or disadvantage with respect to its capacity to adapt itself to specific environmental changes and opportunities" (Gilpin 1981, 102). But do "domestic arrangements" equal property rights, constitutions, or both?

⁴ W. W. Rostow (1990), in the conclusion to his long book on the history of the thought of economic growth, comes to a similarly vague conclusion.

⁵ See the book, *Convergence of Productivity* (Baumol et. al. 1994), for a well-respected discussion.